



Why People Die By Suicide

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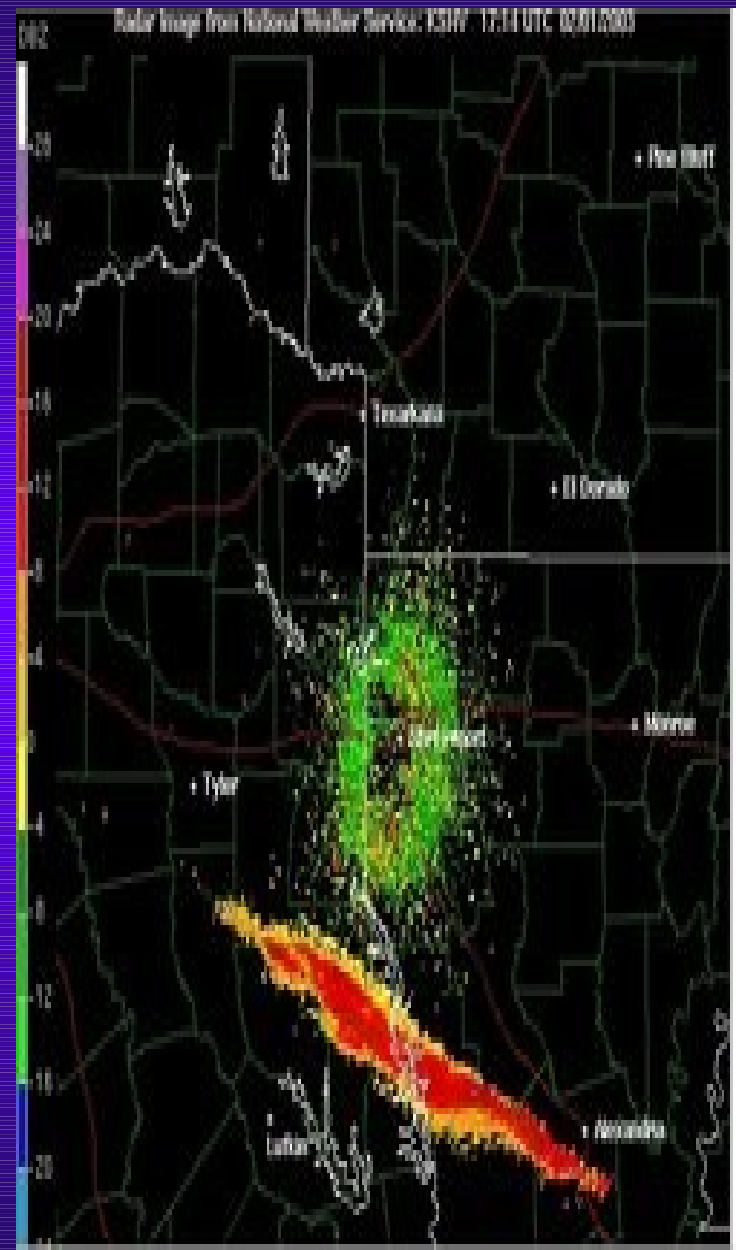


On February
1, 2003, the
space
shuttle
Columbia
disintegrated
as it flew
over the
western
United
States...





... finally
showering
down over
East Texas
and
Louisiana in
thousands
of pieces,
killing all
seven crew
members.



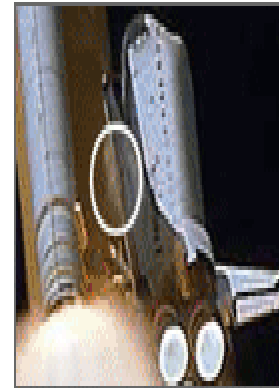


The cause was a dense, dry, brownish-orange piece of foam weighing about 1.7 pounds, 19 inches long and 11 inches wide. The foam hit *Columbia's* left wing traveling 545 mph, causing what investigators now know was a significant breach in the wing.

SUSPECTED CAUSE OF DISASTER

1. Launch: 16 Jan 2003

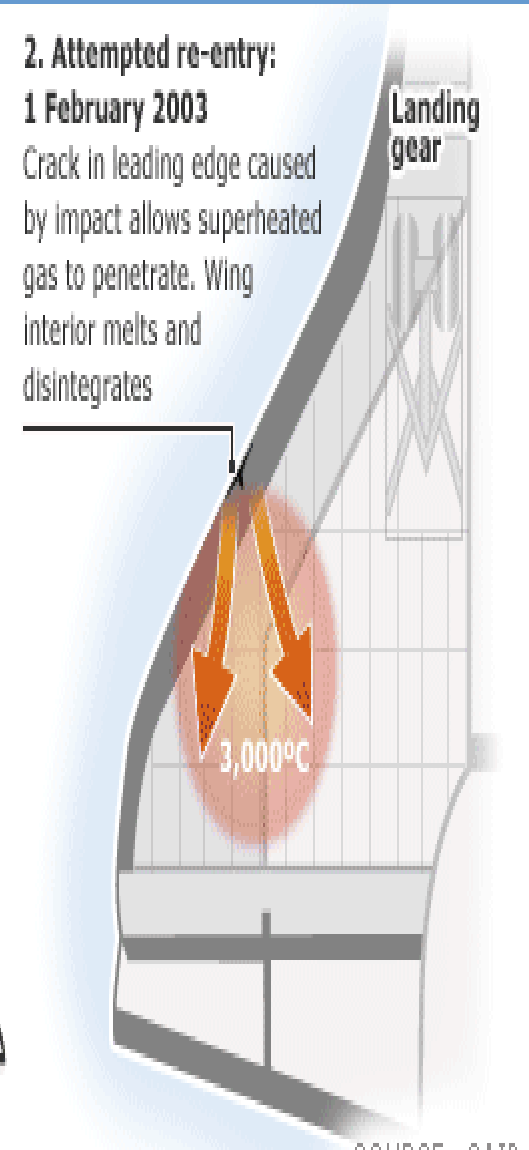
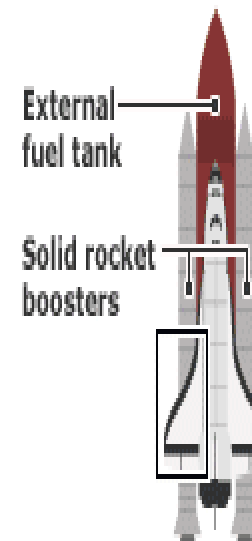
Foam from external tank strikes wing



2. Attempted re-entry: 1 February 2003

1 February 2003

Crack in leading edge caused by impact allows superheated gas to penetrate. Wing interior melts and disintegrates



SOURCE : CAIB



Foam strikes had happened before. In 1988, *Atlantis* was hit, causing such damage that an astronaut said “the belly looked as if it had been blasted with shotgun fire.”



“... over the years foam strikes had come to be seen within NASA as... a problem so familiar that even the most serious episodes seemed unthreatening and mundane.”



One of the members of the panel investigating the accident said “The excitement that only exists when there is danger was kind of gone – even though the danger was not gone.” Key NASA administrators decided against getting in-flight satellite images of the left wing, in part because their sense of danger about foam strikes has eroded over the years, *due to repeated experience with them.*



“I thought this talk was about suicide”

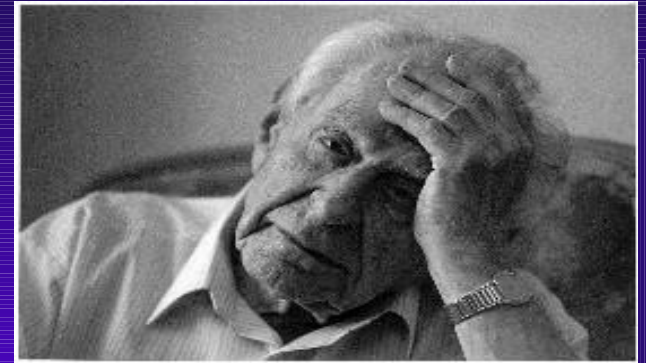
A key point of my theory is that when people get used to dangerous behavior – when they lose “the excitement that only exists when there is danger” in the words of the accident investigator – the groundwork for catastrophe is laid down. Just as NASA administrators became inured to a very real danger, to the point of no longer even worrying about foam strikes, so too, I will argue, do potentially suicidal people lose the danger signals and alarm bells that should accompany self-injury.



The Acquired Ability for Suicide

When self-injury and other dangerous experiences become “unthreatening and mundane” – when people work up to the act of death by suicide by getting used to its threat and danger – that is when we might lose them. That is when they have developed *the acquired ability to enact lethal self-injury*.

A Good Theory



- ◆ Popper: Internally coherent; follows laws of logic; *incremental*; *survivor of deductive tests*.
- ◆ Parsimony: Occam's razor; Dante: *Omne superfluum Deo et Naturae displiceat* (Everything superfluous is displeasing to God and Nature).

A simple metal key with a circular bow and a notched bit, resting on a textured, light brown surface. The key is positioned vertically on the left side of the slide.

A Good Theory

- ◆ But not “too parsimonious.”
Paraphrase of Einstein:
“Be as simple as possible, but no simpler.”



A Good Theory

- ◆ Also, explains the heretofore unexplained....



Why....?

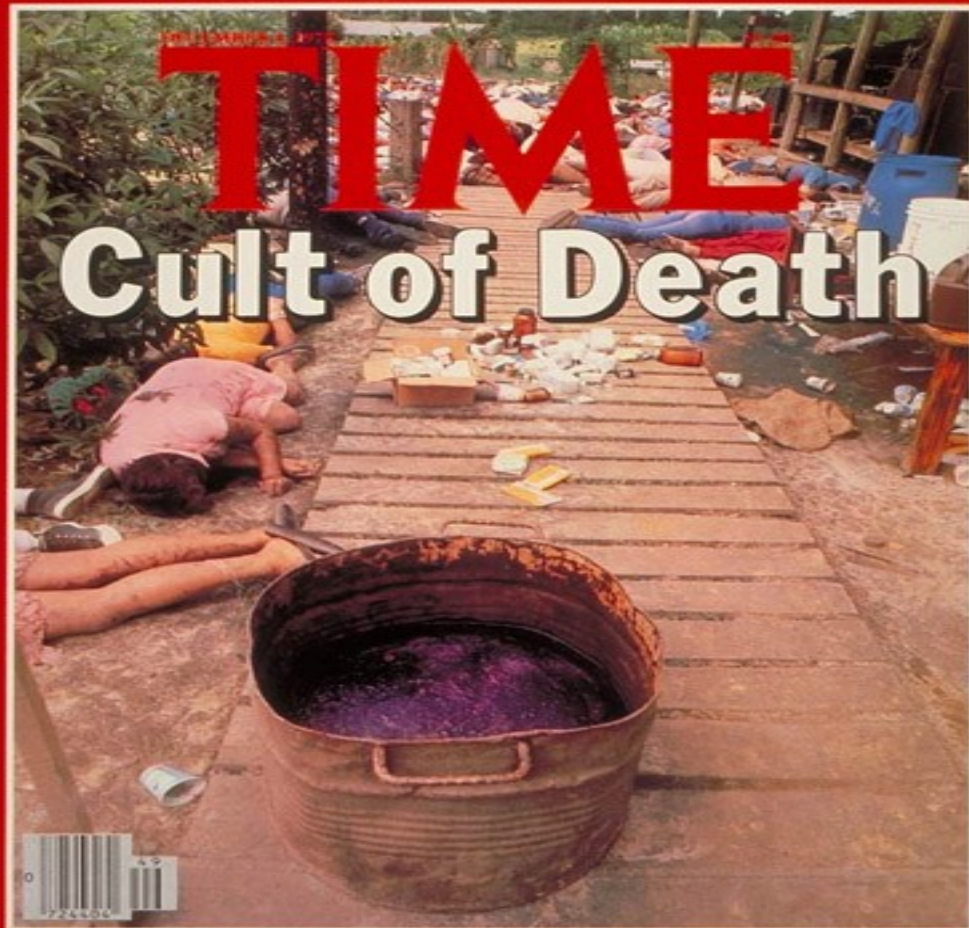


- ◆ do female physicians and prostitutes have high rates of suicide?
- ◆ do suicide rates decrease in times of national crisis and increase when a city's sports team dashes expectations?
- ◆ do 40-50% of those who die by suicide do so on their first attempt?



How....?

- ♦ to understand mass suicide





Tall Order for a Comprehensive Theory of Suicide

- ♦ Not only must the theory illuminate these and other questions, it must also be compatible with these facts:



Facts

- ◆ Suicide rates highest in older people
- ◆ ... and in men (except in China)
- ◆ ... and in Caucasian people in the U.S.
- ◆ Suicide is associated with impulsivity, yet very few die 'on a whim.'
- ◆ Suicide is more associated with anorexia than with bulimia.



More Facts...

- ◆ Completed suicide is relatively rare – 80 per day die in U.S., compared to 1,900 per day from heart disease.
- ◆ Suicides sometimes seem to cluster or to appear “contagious.”



Past Theories

- ◆ Shneidman on “psychache”
 - Emphasized lethality and perturbation as key ingredients of serious suicidality.
 - As important as these concepts are, they leave open questions like “perturbed about what in particular?” and “what exactly constitutes lethality and how does it develop?”



Past Theories

- ◆ Beck on hopelessness
 - Impressive data support this view; however, the model struggles somewhat with questions like “but what are suicidal people hopeless about?,” and “if hopelessness is key, why then do relatively few hopeless people die by suicide?”

Sketch of the Theory

Those Who
Desire Suicide



Perceived
Burdensomen
ess

Thwarted
Belongingn
ess

Those Who Are
Capable of Suicide

Serious Attempt or Death by
Suicide



Key Questions

Begged

- ◆ How exactly does one acquire the ability to enact suicide?
- ◆ What are the constituents of the desire for suicide?



The Acquired Capability to Enact Lethal Self-

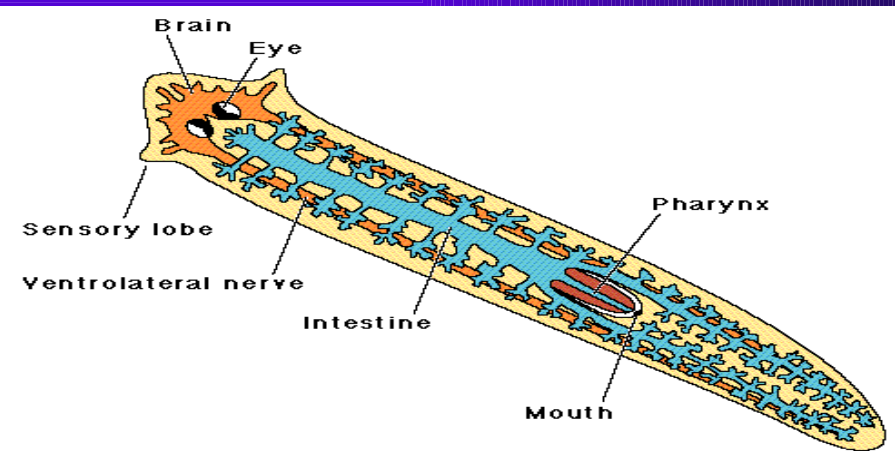
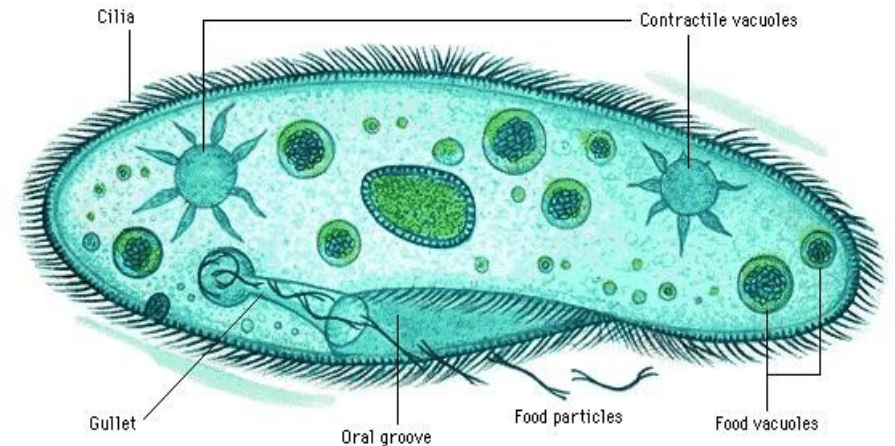
- ## Injury
- ◆ “It seems rather absurd to say that Cato slew himself through weakness. None but a strong man can surmount the most powerful instinct of nature” – Voltaire.
 - ◆ Accrues with repeated and escalating experiences involving pain and provocation, such as
 - Past suicidal behavior, but not only that...
 - Repeated injuries (e.g., childhood physical abuse).
 - Repeated witnessing of pain, violence, or injury (cf. physicians).
 - Any repeated exposure to pain and provocation.

The Acquired Capability to Enact Lethal Self-Injury:

◀ Habituation

n:
Response
decrement
due to
repeated
stimulation

•





The Acquired Capability to Enact Lethal Self-

- ◀ **Injury** With repeated exposure, one habituates – the “taboo” and prohibited quality of suicidal behavior diminishes, and so may the fear and pain associated with self-harm.
- ◆ Relatedly, opponent-processes may be involved.

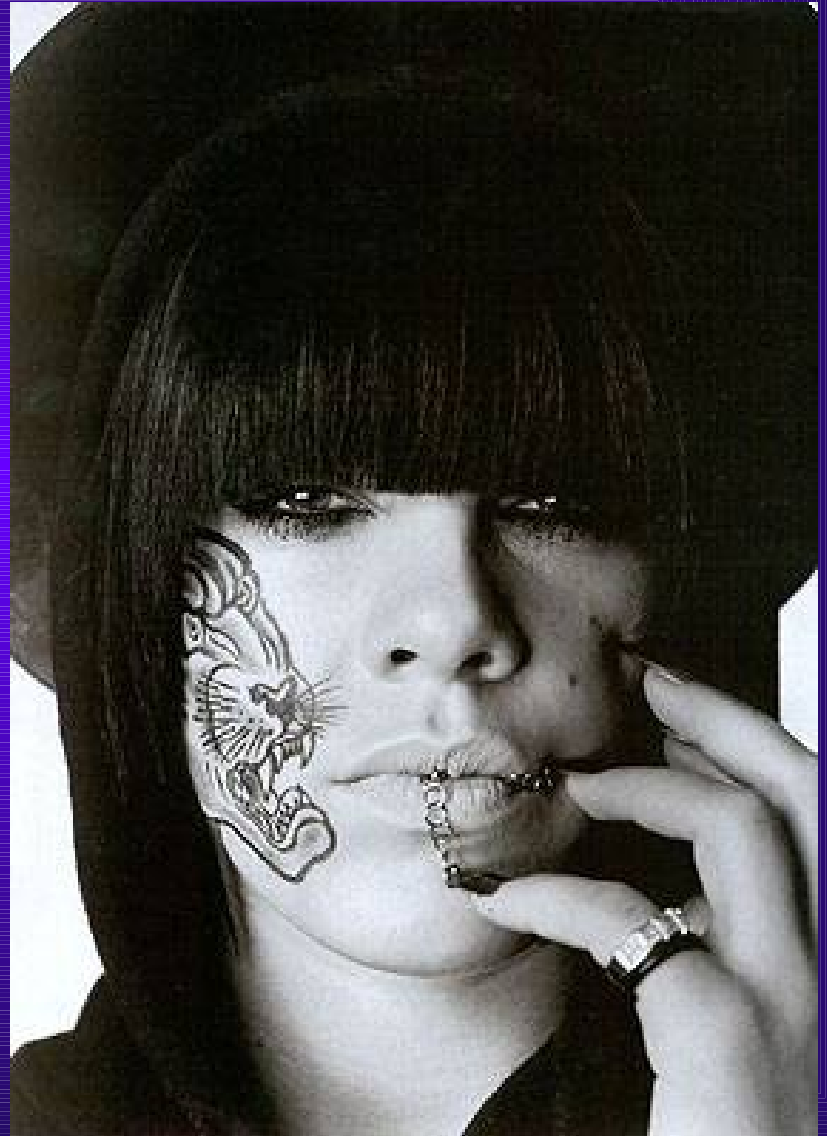


The Acquired Capability to Enact Lethal Self-

- ◆ **Injury** Briefly, opponent process theory (Solomon, 1980) predicts that, with repetition, the effects of a provocative stimulus diminish, and the opposite effect, or opponent process, becomes amplified and strengthened. The opponent process for suicidal people may be that they become more competent and fearless, and may even experience increasing reinforcement, with repeated practice at suicidal behavior.

Anecdotal Evidence: Pink

- ◆ “I like putting holes in my body. It's addictive.”
- Pink





Empirical Evidence

- ◆ In a case-controlled study comparing accidental deaths to suicides, people who died by suicide were more likely to have tattoos (Dhossche, Snell, & Larder, 2000). There are many possible reasons for an association between tattooing and completed suicide (e.g., substance abuse). It is an intriguing if speculative interpretation, however, that eventual suicide victims have obtained courage regarding suicide partly via painful and provocative experiences, such as tattooing, piercing, etc.



Empirical Evidence

- ◆ Menninger (1936) mentioned another possible example, compulsive submission to multiple surgeries. Rosenthal, Rinzler, Wallsh, and Klausner (1972) reported that self-cutting women had had more surgeries than controls. Patients with Body Dysmorphic Disorder have both high rates of surgery (usually cosmetic surgery) and high rates of suicidality (Veale, Boocock, Gournay, & Dryden, 1996; Phillips, McElroy, Keck, & Pope, 1993).



Empirical Evidence

- ◆ Lethality of method and seriousness of intent increase with attempts.
- ◆ People who have experienced or witnessed violence or injury have higher rates of suicide – prostitutes, self-injecting drug abusers, people living in high-crime areas, physicians.
- ◆ Those with a history of suicide attempt have higher pain tolerance than others.



Empirical Evidence: “Kitchen Sink”

- ◆ The model predicts an association between past and future suicidality, even beyond strong covariates like mood disorder status, family history of psychopathology, etc..
- ◆ In four samples (U.S. suicidal outpatients, Brazilian inpatients, U.S. college students, & U.S. geriatric inpatients), this prediction was supported.

Joiner et al. (2005). *Journal of Abnormal Psychology*.



Empirical Evidence:

Childhood Physical/Sexual Abuse

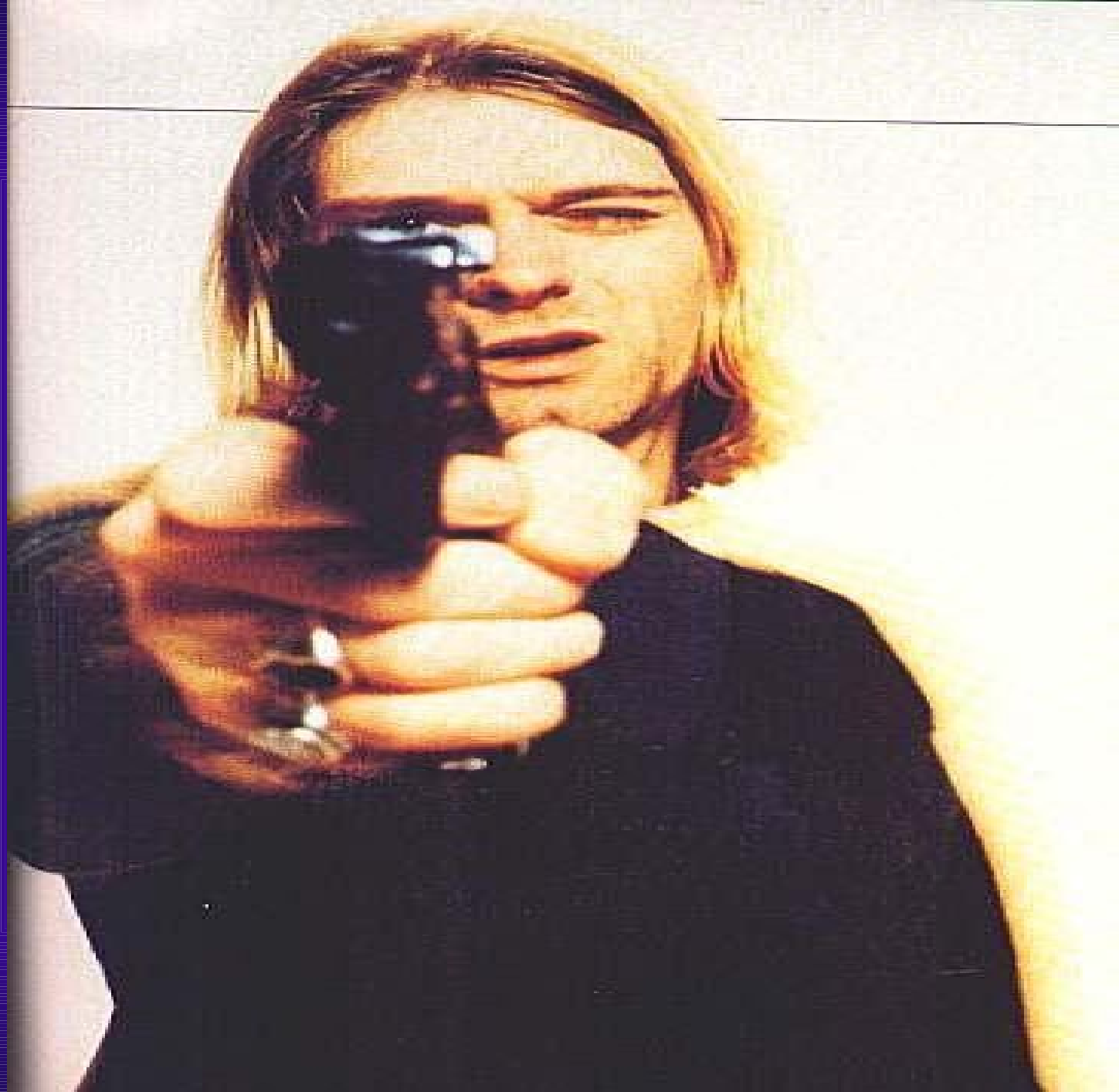
- ◆ The model predicts an association between childhood physical abuse and future suicidality, even beyond strong covariates like mood disorder status, family history of psychopathology, etc.
- ◆ The model further predicts that this association will be stronger than that between verbal/emotional abuse and suicidality, because physical/sexual abuse involves more physical pain.



Empirical Evidence: Childhood Physical/Sexual Abuse

- ◆ This is in fact the finding in the National Comorbidity Survey data set.
- ◆ Childhood physical/sexual abuse predicts lifetime number of suicide attempts controlling for a host of strong covariates like personal and family psychopathology, and for verbal/emotional abuse.
- ◆ Verbal/emotional abuse was not predictive of later suicidal behavior.







Anecdotal Evidence: Cobain

- ◆ Cobain was temperamentally fearful – afraid of needles, afraid of heights, and, crucially, afraid of guns. Through repeated exposure, a person initially afraid of needles, heights, and guns later became a daily self-injecting drug user, someone who climbed and dangled from 30 foot scaling during concerts, and someone who enjoyed shooting guns.



Anecdotal Evidence: Cobain

- ◆ Regarding guns, Cobain initially felt that they were barbaric and wanted nothing to do with them; later he agreed to go with his friend to shoot guns but would not get out of the car; on later excursions, he got out of the car but would not touch the guns; and on still later trips, he agreed to let his friend show him how to aim and fire. He died by self-inflicted gunshot wound in 1994 at the age of 27.



Anecdotal Evidence: Fire Victim

- ◆ “I wonder why all the ways I’ve tried to kill myself haven’t worked. I mean, I tried hanging; I used to have a noose tied to my closet pole. I’d go in there and slip the thing over my head and let my weight go, but every time I started to lose consciousness, I’d just stand up. I tried to take pills; I took 20 Advil one afternoon, but that just made me sleepy. And all the times I tried to cut my wrist, I could never cut deep enough. *That’s the thing, your body tries to keep you alive no matter what you do* (italics added).”



Anecdotal Evidence: Fire Victim

- ◆ Later diary entries described how the narrator doused himself with gasoline and set himself on fire; he survived, badly burned ([This American Life](#), National Public Radio, May 11, 2003).
- ◆ This example illustrates Voltaire's "most powerful instinct of nature" (i.e., "your body tries to keep you alive no matter what you do"), as well as the progression that allows people to do extreme things in attempting to overcome it (e.g., self-immolation).

12**AUTOPSY REPORT**

No.

2003-07948

SMITH, STEVEN PAUL

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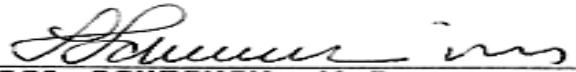
WITNESSES:

LAPD-Northeast Division Detectives King and Carrillo were present at the autopsy.

OPINION:

The cause of death is stab wounds of the chest. Each stab wound is considered fatal per se, since each entered the chest cavity; additionally, there is a perforating wound to the heart associated with stab wound #2. Toxicology tests revealed no illicit substances. All medications were therapeutic or subtherapeutic.

The mode of death is undetermined at this time. While his history of depression is compatible with suicide, and the location and direction of the stab wounds are consistent with self-infliction, several aspects of the circumstances (as are known at this time) are atypical of suicide and raise the possibility of homicide. These include the absence of hesitation wounds, stabbing through clothing, and the presence of small incised wounds on the right arm and left hand (possible defensive wounds). Additionally, the girlfriend's reported removal of the knife and subsequent refusal to speak with detectives are all of concern. Since a complete knowledge of the circumstances surrounding the stabbing is lacking, the mode will remain undetermined until such time as sufficient additional information becomes available.


LISA SCHEININ, M.D.
DEPUTY MEDICAL EXAMINER

DATE

1-6-04

LS:am/dv:c/f
D-10/23/03
T-10/28/03

Those Who Desire Suicide



Perceived
Burdensomen
ess

Thwarted
Belongingn
ess

Those Who Are
Capable of Suicide

Serious Attempt or Death by
Suicide



Constituents of the Desire for Death

- ◆ Perceived Burdensomeness
- ◆ Thwarted Belongingness



Perceived Burdensomeness

- ◆ Feeling ineffective to the degree that others are burdened is among the strongest sources of all for the desire for suicide.



Perceived Burdensomeness:

◆ **Empirical Evidence** Four studies to date have directly tested this view; all support it.

- For example, we trained raters to evaluate actual suicide notes regarding the following dimensions: perceived burdensomeness; hopelessness; and generalized emotional pain. Unknown to the raters, half of the notes were from people who died by suicide, and half were from people who attempted suicide and survived. The notes from those who died by suicide contained more perceived burdensomeness than notes from attempters; no effects were found regarding hopelessness and emotional pain.

Joiner et al. (2002). Perceived burdensomeness and suicidality: Two studies on the suicide notes of those attempting and those completing suicide. Journal of Social & Clinical Psychology, 21, 531-545



Perceived Burdensomeness: ◆ Other research Evidence has Empirical Evidence supported this link.

- For example, Brown, Comtois, & Linehan (2000) reported that genuine suicide attempts were often characterized by a desire to make others better off, whereas non-suicidal self-injury was often characterized by desires to express anger or punish oneself.

Brown, M.Z., Comtois, K.A., & Linehan, M.M. (2002). Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. Journal of Abnormal Psychology, 111, 198-202.



Perceived Burdensomeness:

- ◆ **Anecdotal Evidence** Among the Yuit Eskimos of St. Lawrence Island, to become too sick, infirm, or old may threaten the group's survival (i.e., burden the group); the explicit and socially sanctioned solution to this problem is ritual suicide. The ritual is graphic, often involving the family members' participation in the shooting or hanging of the victim

Those Who Desire Suicide



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Constituents of the Desire for Death

- ◆ Perceived Burdensomeness
- ◆ Thwarted Belongingness



Thwarted Belongingness

- ◆ The need to belong to valued groups or relationships is a powerful, fundamental, and extremely pervasive human motivation. When this need is thwarted, numerous negative effects on health, adjustment, and well-being have been documented.



Thwarted Belongingness

- ◆ The view taken here is that this need is so powerful that, when satisfied, it can prevent suicide even when perceived burdensomeness and the acquired ability to enact lethal self-injury are in place. By the same token, when the need is thwarted, risk for suicide is increased. My argument is that the thwarting of this fundamental need is powerful enough to contribute to the desire for death. This perspective is similar to the classic work of Durkheim (1897), who proposed that suicide results, in part, from failure of social integration.



Thwarted Belongingness: Empirical Evidence

- ◆ Social isolation is a very strong risk factor.
 - Stirman and Pennebaker's (2001) study of language use by poets who died by suicide vs. non-suicidal poets suggested escalating interpersonal disconnection as the suicidal poets' deaths neared. As the suicidal poets' deaths approached, their use of interpersonal pronouns (e.g., "we") decreased noticeably.

Stirman, S.W., & Pennebaker, J.W. (2001). Word use in the poetry of suicidal and nonsuicidal poets. Psychosomatic Medicine, 63, 517-522.



Thwarted Belongingness: Empirical Evidence

- ◆ Hoyer and Lund (1993) studied nearly a million women in Norway; over the course of a 15-year follow-up, over 1,000 died by suicide. They reported that women with six or more children had one-fifth the risk of death by suicide as compared to other women.

Hoyer, G., & Lund, E. (1993). Suicide among women related to number of children in marriage. *Archives of General Psychiatry*, *50*, 134-137. .

Thwarted Belongingness: Empirical Evidence

- ◆ Twins die by suicide at lower rates than others despite having slightly higher rates of mental disorders.



Dr. Ris
ish M





Thwarted Belongingness: Empirical Evidence

- ◆ The camaraderie and sense of belongingness from being a fan of sports teams can be considerable, especially under conditions of success (as many who have lived in university towns can observe for themselves when the university wins a national championship, say, in football, say in 1993 or 1999).



Thwarted Belongingness: Empirical Evidence

- ◆ It is interesting to consider, then, whether teams' success affects suicidality; from the present perspective, it might, in that increased belongingness should be associated with lower suicidality.



Thwarted Belongingness: Empirical Evidence

- ◆ Several studies have documented this association.

Joiner, T., Van Orden, K., & Hollar, D. (in press). On Buckeyes, Gators, the Miracle on Ice, and Super Bowl Sunday: Pulling Together Is Associated With Lower Suicide Rates. Journal of Social & Clinical Psychology.

Fernquist, R.M. (2000). An aggregate analysis of professional sports, suicide, and homicide rates: 30 U.S. metropolitan areas, 1971-1990. Aggression & Violent Behavior, 5, 329-341.

Steels, M.D. (1994). Deliberate self poisoning - Nottingham Forest Football Club and F. A. Cup defeat. Irish Journal of Psychological Medicine, 11, 76-78.

Trovato, F. (1998). The Stanley Cup of Hockey and suicide in Quebec, 1951-1992. Social Forces, 77, 105-126.

Thwarted Belongingness: Poor Red Sox Fans



Thwarted Belongingness: Poor Red Sox Fans (Well, Until 2004)

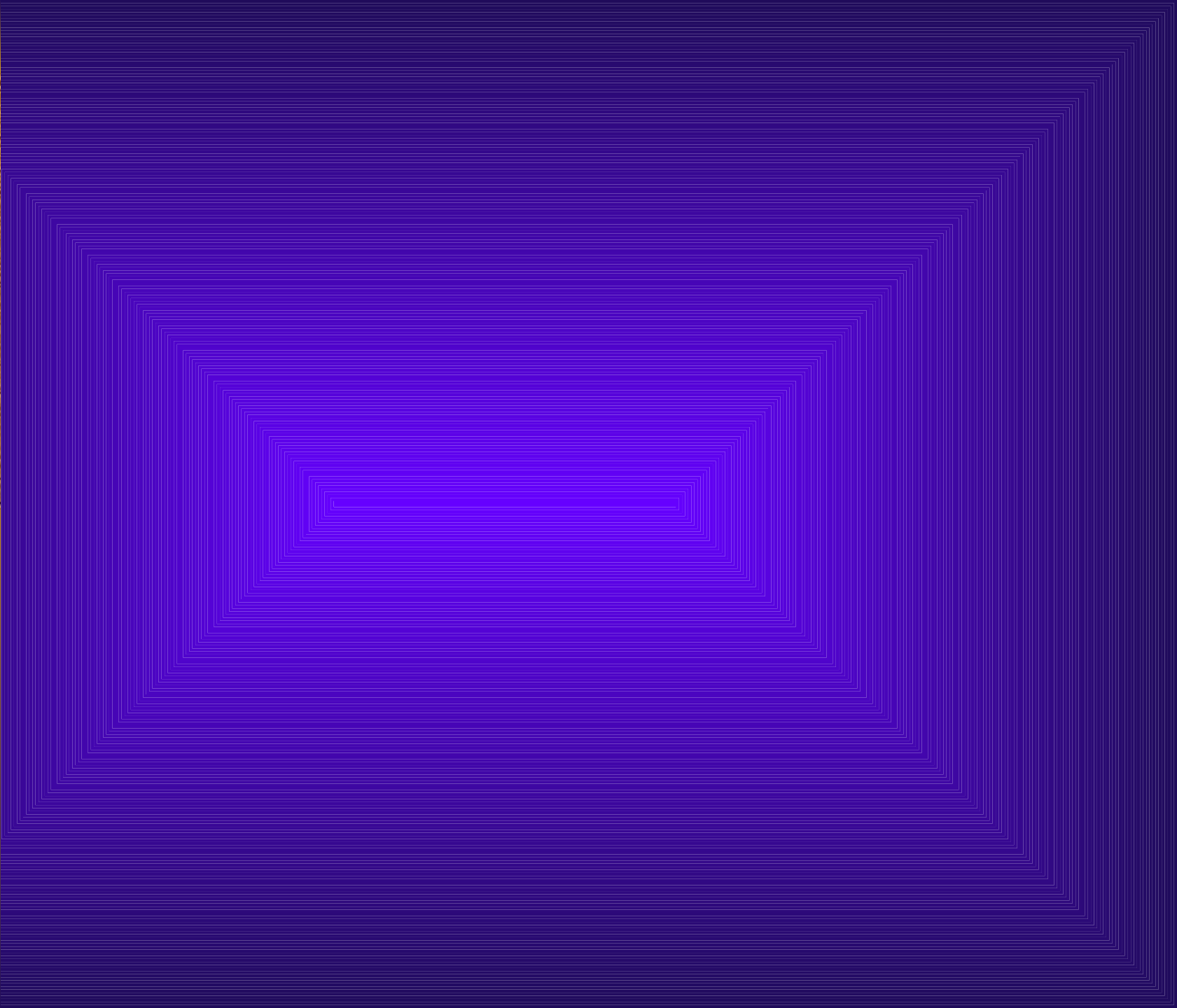


Thwarted Belongingness: Poor Cubs Fans



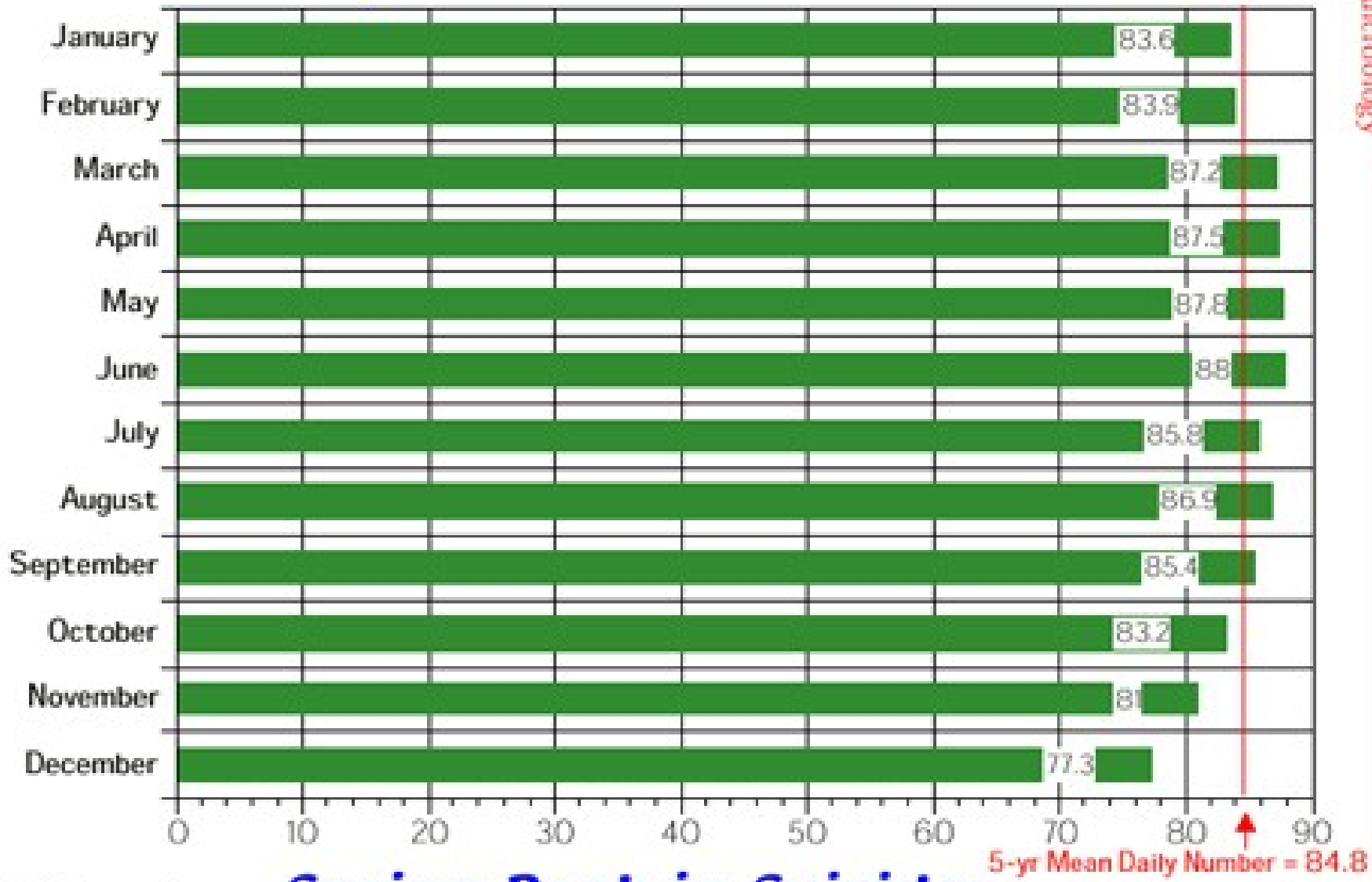
◆ Miracle on
Ice, February
22, 1980







Monthly Variation in Suicide



1992-96 Average Data

Spring Peak in Suicides

Those Who Desire Suicide



Perceived
Burdensomen
ess

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ess

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Suicide



Going Back to Answer Questions

- ◆ Why do 40-50% of those who die by suicide do so on their first attempt?
- ◆ Barber et al. (1998) interviewed 135 psychiatric inpatients, and over half reported at least one “aborted suicide attempts” (an event in which an individual comes close to attempting suicide but does not do so and thus sustains no injury). Importantly, intent-to-die ratings for “aborted suicide attempts” were similar to those for actual suicide attempts, indicating that aborted attempts can have severe qualities – qualities that could potentially produce habituation and practice effects.



Going Back to Answer Questions

- ◆ Moreover, patients who reported aborted attempts were nearly twice as likely to have made an actual suicide attempt as patients with no aborted attempts. Practice regarding suicide may occur in the absence of actual suicidal behavior.



Going Back to Answer Questions

- ◆ Why do female physicians and prostitutes have high rates of suicide?
 - Both have ample opportunity to accrue, through experience or witnessing of pain, injury, etc., the ability to enact lethal self-injury



Going Back to Answer Questions

- ◆ Why do suicide rates decrease in times of national crisis and increase when a city's sports team dashes expectations?
 - Operates through enhanced or thwarted belongingness.



Going Back to Answer Questions

- ◆ How to understand mass suicides in cults?
 - In both the Jonestown and Heaven's Gate incidents, people caused their own deaths, seemingly intentionally. In Jonestown, where 914 people died, the majority of people died from drinking a grape-flavored drink laced with cyanide and sedatives at the behest of leader Jim Jones. In the Heaven's Gate event, which caused the deaths of 39 people (two additional cult members died by suicide in the months following), people died by ingesting high doses of phenobarbital mixed with vodka, at the behest of leader Marshall Applewhite.



Going Back to Answer Questions

- ◆ First, relevant to the acquired capability to enact lethal self-injury, there were numerous discussions about and explicit rehearsals for suicide in both the Jonestown and Heaven's Gate incidents. This was a harrowing aspect of Jonestown, where Jones tested loyalty by telling members that a drink contained poison (when it did not), and asking them to drink it.



Going Back to Answer Questions

- ◆ Also, people in both groups endured considerable pain and provocation. In Jonestown, in addition to the harrowing loyalty tests, people worked 74 hours per week in agricultural fields or construction in the searing heat of the South American jungle, and this was in the context of a sparse diet and lengthy and regular religious meetings.



Going Back to Answer Questions

- ◆ Eight of the 18 men who died in the Heaven's Gate incident had undergone voluntary castrations.



Going Back to Answer Questions

- ◆ Regarding belongingness, it is an under-appreciated fact that belongingness is low in most cults. To be sure, people in cults work, live, and worship side by side, but their connection to each other is minimal, and their main interpersonal cathexis is to the cult leader, whose reciprocity is sporadic, one-sided, and often manipulative or abusive.



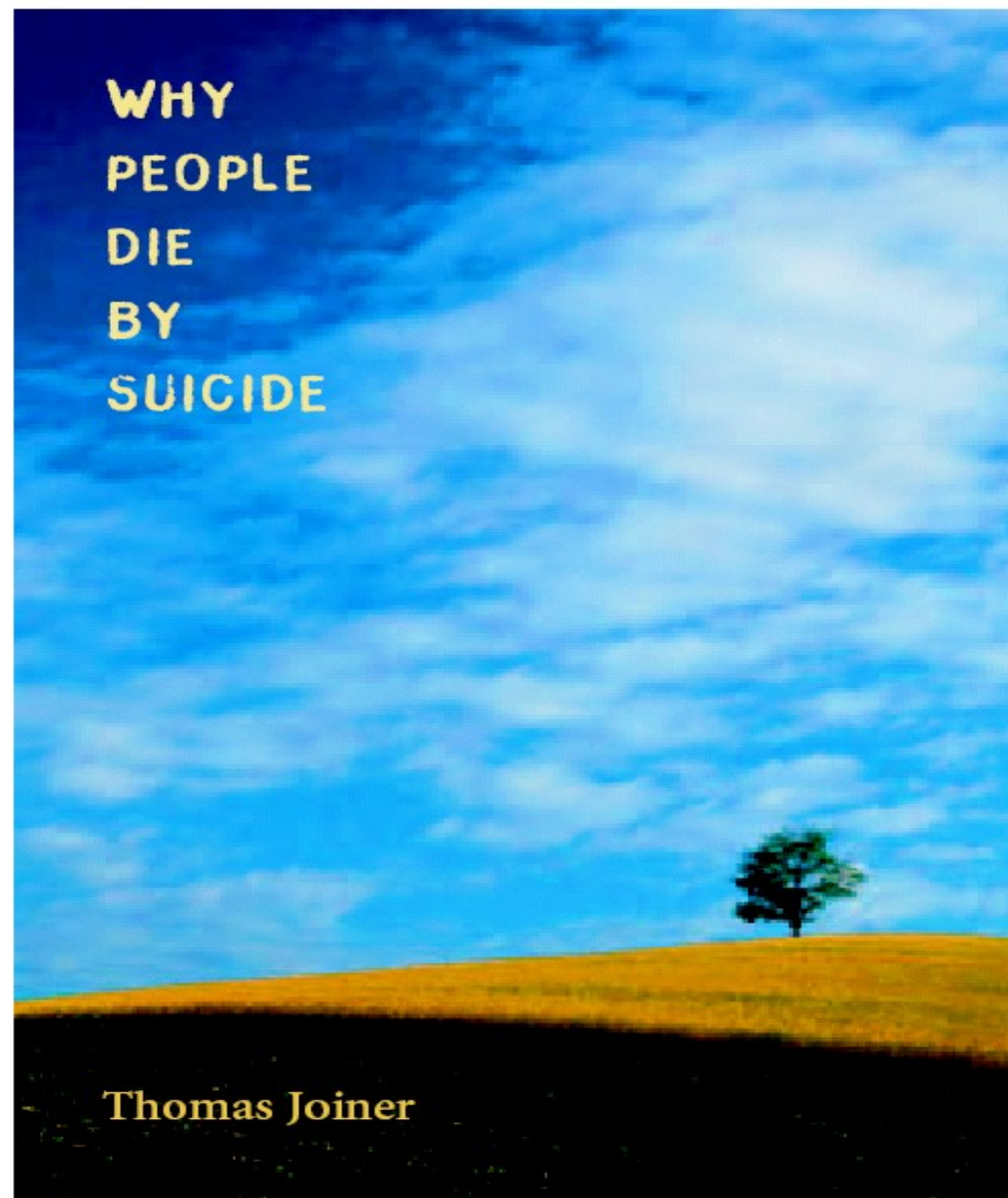
Prevention/Treatment Implications

- ◆ The model's logic is that prevention of "acquired ability" OR of "burdensomeness" OR of "thwarted belongingness" will prevent serious suicidality.
- ◆ Belongingness may be the most malleable and most powerful.
- ◆ Example PSA: "Keep your old friends and make new ones – it's powerful medicine."
- ◆ CBT -> burdensomeness and low belong.



Thanks to

- ◆ The John Simon Guggenheim Memorial Foundation
- ◆ World-class Ph.D. students at FSU Psychology
- ◆ Harvard University Press



Available now - order (please!!) at [amazon.com](https://www.amazon.com)



The book goes well beyond this talk.

- ◆ 9/11, World Trade Center
- ◆ Suicide in insects and spiders (weird but true)
- ◆ How death merges with life in the minds of suicidal people
- ◆ Lying about suicide
- ◆ Why we scramble to prevent deaths by lightning strike but do less to prevent death by suicide



The book goes well beyond this talk

- ◆ What I told my young sons about how suicide runs in our family
- ◆ The role of serotonin-system genes and other serotonin-system parameters in suicidal behavior
- ◆ Why women with anorexia nervosa and borderline personality disorder are so vulnerable to death by suicide



Thank you for your attention

- ◆ A far more detailed explication of all this is available in the book – search ‘suicide’ and ‘joiner’ at amazon.com....

- ◆ **joiner@psy.fsu.edu**



Toward a Risk Assessment Framework

- ◆ A General Framework for Suicide Risk Assessment (Joiner, Walker, Rudd, & Jobes, 1999)
- ◆ Its Goal is to efficiently and objectively categorize with regard to suicide risk.
- ◆ Specific names of categories are less important than their consistency and their tie to clinical decision-making.
- ◆ I like these 4 categories: None, mild-moderate, severe, and extreme.
 - Joiner, T., Walker, R., Rudd, M.D., & Jobes, D. (1999). Scientizing and routinizing the outpatient assessment of suicidality. Professional Psychology: Research & Practice, 30, 447-453.

The Framework



Multiple Attempter?

Yes

No

Elevated on Resolved Plans & Preparation?

Yes

No

Elevated on

Desire &

Ideation

Yes

No

Any Other Significant Finding = AT LEAST Moderate Risk

Any Other Significant Finding = AT LEAST Moderate Risk

Two or More Other Significant Findings = AT LEAST Moderate Risk

Low Risk



Death and Life

- ◆ **Coleridge:** “I am my own parasite.”
- ◆ **Plath:** “The woman is perfected./ Her dead/Body wears the smile of accomplishment.../her bare/ feet seem to be saying: / we have come so far; it is over.”



Suicide Terrorists &

Bombers It is clear that suicide terrorists and bombers work up to the act, going through months and sometimes years of training and preparation for the act; in this way, they are consciously and deliberately attaining the capability for lethal behavior.



Suicide Terrorists &

◆ **Moreover**, they do appear to use a kind of calculation related to burdensomeness (i.e., their death is worth more to their community than their life).



Suicide Terrorists &

Bombers Their sense of belongingness, however, seems quite high – another reason, from the perspective of the current model, to view their deaths as other than suicides, and many Muslim clerics concur that self-martyrdom and suicide are distinct (Kelsay, 2002).



Suicide Terrorists &

Bombers

Even here, however, the current view has something to contribute. It is possible that death and life merge for suicide terrorists, such that they view death as a way to belong, and to belong more fully than by anything they could do in life. In fact, in his book entitled *My Life is a Weapon*, Reuter (2004) identifies belonging in the memories of family and society at large as perhaps the prime motive for suicide terrorists.



Suicide Terrorists & Bombers

Japanese kamikaze pilots can be viewed similarly. Axell and Kase (2002) published excerpts from the pilots' "how-to" manual. One excerpt read, "Just before the collision it is essential that you do not shut your eyes for a moment so as not to miss the target. Many have crashed into the targets with wide-open eyes. They will tell you what fun they had."



Suicide Terrorists &

- ◆ **Bombers** A subsequent passage entitled “The moment of the crash” read, “You are two or three meters from the target. You can see clearly the muzzles of the enemy’s guns. You feel that you are suddenly floating in the air. At that moment, you see your mother’s face.”



Suicide Terrorists &

- ◆ **Bombers** Also like the suicide bombers, high belongingness seemed to characterize the deaths of Kamikaze pilots. A relevant excerpt from their manual read, “Remember when diving into the enemy to shout at the top of your lungs: “Hissatsu!” (“Sink without fail!”) At that moment, all the cherry blossoms at Yasukuni shrine in Tokyo will smile brightly at you.”



Suicide Terrorists &

- ◆ **Bombers** According to my model, one interpretation of this is that the pilots' need to belong has become met by death. Another interpretation, of course, is that their elevated sense of belongingness is a reason to define their deaths as other than suicides.



Schizophrenia- Spectrum Disorders

In his classic Dementia Praecox, Bleuler (1911/1987) described the self-concept of schizophrenic patients as often including delusions of inferiority, poverty, and sinfulness. He stated: “The delusions then have the same content as other melancholias, except that schizophrenia often tinges them with its own peculiar coloring of contradiction, incompleteness and senselessness” (p. 122).



Schizophrenia- Spectrum Disorders

Bleuler cites an example of a schizophrenic patient who believes that God has withdrawn from him through his belly; a second schizophrenic patient, in explaining a suicide attempt, stated “All the world’s murderers wait for me; they cannot die without me.”



Schizophrenia-Spectrum Disorders

Our study among suicide attempters and VA inpatients was consistent with the view that schizophrenia imbues self-concept with a pernicious quality, perhaps leading to more self-hatred and suicidality.

Joiner et al. (2001). *J. Psychopathology & Beh. Assessment.*



Suicide's Shoeing

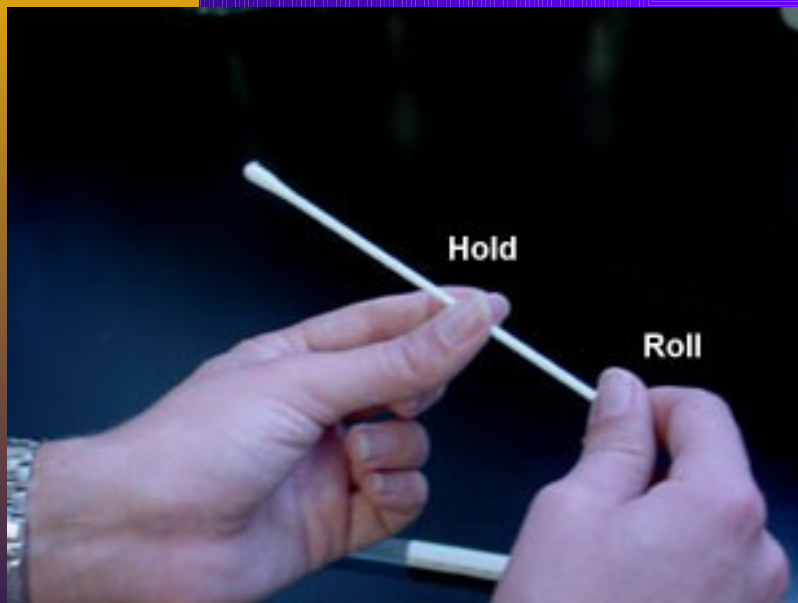
Horn

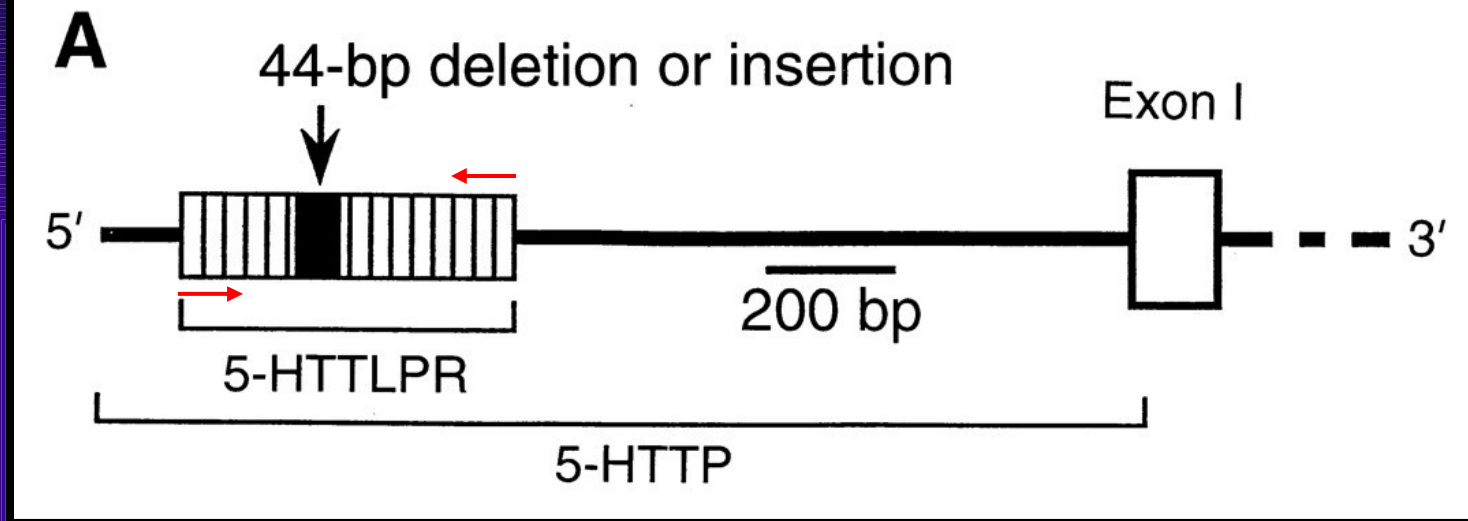
- ◆ Black bile is suicide's "shoeing horn" (Burton, 1621).
- ◆ There does appear to be a shoeing horn, and it's serotonergic dysregulation.



Allelic Variations on the Serotonin Transporter Gene

- ◆ The serotonin transporter, through reuptake of serotonin, plays a key role in regulating serotonin's neurotransmission, is the initial site of action of SRI antidepressants, and may be important in the early development of emotion-related brain regions.
- ◆ The serotonin transporter is encoded by a single gene on chromosome 17q11.2, and has a polymorphism in its transcriptional control region (5-HTTLPR). A 44-base pair insertion or deletion constitute the long (l) and short (s) forms of the polymorphism, respectively.

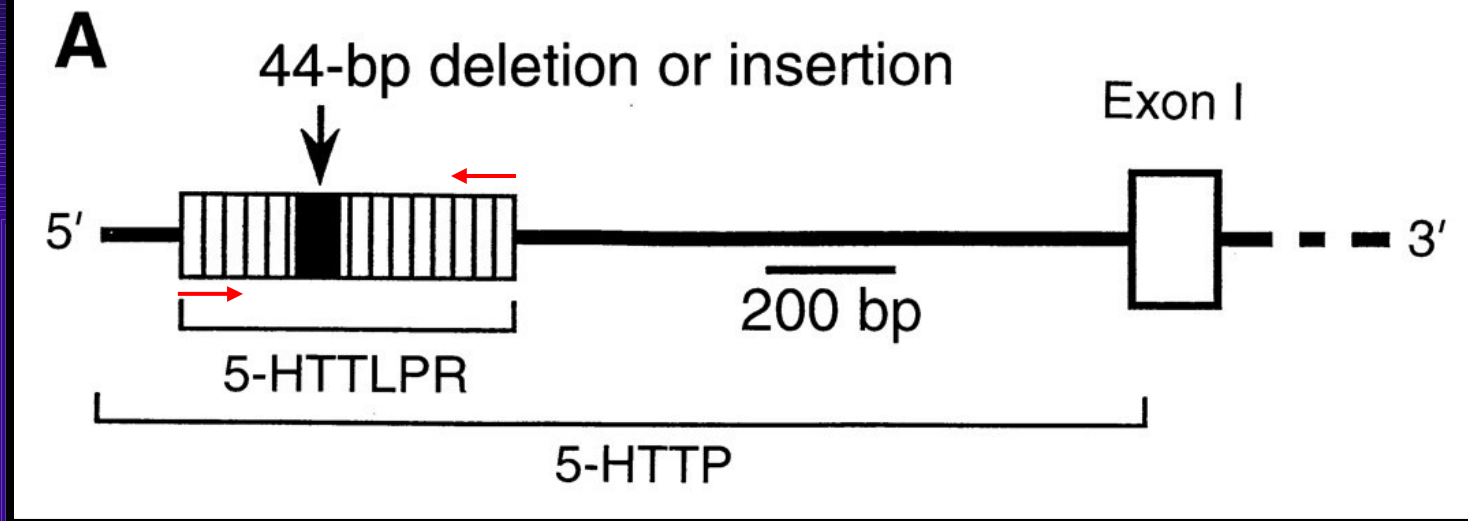




5-HTTLPR: 5-HT transporter-linked polymorphic region

Using PCR primers that flank the deletion/insertion site, two different-sized PCR products will be generated, depending on whether the 'l' or 's' form is present.

PCR products can be resolved on an agarose gel and stained with ethidium bromide to determine the genotype of an individual.



5-HTTLPR: 5-HT transporter-linked polymorphic region

l/l

s/

s/s (TJ)





Allelic Variations on the Serotonin Transporter

Gene

The s variant (especially s/s) has been associated with non-optimal serotonergic functioning and with negative emotionality, although this finding has not always replicated.

- ◆ Similarly, the l variant has shown relations to some forms of psychopathology, but not always. Mann et al. (2000) recently reported that the polymorphism was related to major depression but not to suicide (although suicide victims did tend to have more short alleles; but not significantly more).



Study on Polymorphism and Family History of

• The polymorphism was analyzed (cheek swabs) in 47 normal volunteers (26 women; 21 men, average age = 30.2), who also responded to this question:

“To the best of your knowledge, how many first-degree biological relatives have: 1) died by suicide? and 2) made more than one suicide attempt?”

Study on Polymorphism and

Family History of Suicide RESULTS

